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Some Reflections on 25 Years of the Association for Behavior Analysis: Past, Present, and Future

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This paper offers some reflections on the discipline and profession of behavior analysis, as well as on the Association for Behavior Analysis (ABA), on the occasion of the association's 25th anniversary. It is based on a panel session conducted at the 1999 convention that included six past presidents of ABA (Donald M. Baer, Judith E. Favell, Sigrid S. Glenn, Philip N. Hineline, Jack Michael, and Edward K. Morris) and its current Executive Director and Secretary-Treasurer (Maria E. Malott). Among the topics addressed were (a) the survival of behavior analysis in university and cultural contexts, (b) the training of behavior-analytic researchers and practitioners, (c) relations between basic and applied research, (d) convergences between behavior analysis and other disciplines, (e) the structure and function of ABA, and (f) the importance of students for the future of the association, the discipline, and the profession. Questions from the audience raised issues concerning the relevance of major behavior-analytic journals, advances in behavior analysis since the death of B. F. Skinner, and the availability of accessible, popular material on applied behavior analysis.

Key words: Association for Behavior Analysis, history of behavior analysis

As the 20th century came to a close, the Association for Behavior Analysis (ABA) celebrated its 25th anniversary and entered a new millennium. This presented a propitious occasion for reflecting on the association's past, present, and future, as well as on behavior analysis as a discipline and a profession. Indeed, some celebrations and reflections had already begun. In particular, the association held a 25th anniversary banquet at its 1999 annual convention, hosting a program featuring segments on "The Founding of ABA," "The Freds," "Convention Memories," "A Behavioral Folly," and "The Aging of ABA" (see Malott, 1999a).

The convention program also fea-

This article is based on a panel discussion conducted at the 1999 meeting of the Association for Behavior Analysis, "Reflections of 25 Years of ABA: Past, Present, and Future," albeit in a condensed form. The first author was the panel's chairperson and manuscript editor; the remaining authors are listed in their order on the panel (alphabetically). For fuller versions of their reflections, the panelists should be contacted independently.

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tured a panel session, "Reflections on 25 Years of ABA: Past, Present, and Future." The panelists were five past presidents of the association (Donald M. Baer, Judith E. Favell, Sigrid S. Glenn, Philip N. Hineline, and Jack Michael) and its current Executive Director and Secretary-Treasurer (Maria E. Malott). The chairperson was another past president (Edward K. Morris) who also participated as a panelist. In their respective professional roles, each panelist had attained leadership roles in ABA (e.g., Baer, 1980; Favell, 1992; Glenn, 1993; Hineline, 1990a, 1990b; Malott, 1999b; Michael, 1979; Morris, 1992). In addition, they had—and continue to have—distinguished records of contributions to behavior analysis (e.g., Favell et al., 1982; Hineline, 1980, 1991; Michael, 1985). Thus, each panelist was in a unique position to reflect on the state of ABA, as well as on the state of the discipline and the profession of behavior analysis. This was the purpose of the occasion and of this report of what transpired (cf. Boneau, 1992).

The panel was specifically asked to address three broad-ranging topics: (a) the association's past in the context of the present—for instance, its promise of 25 years ago, and how that promise has or has not been realized—for good or for ill; (b) the association's present structure and functioning—for instance, in promoting the discipline and in the professional development of its junior colleagues—and its successes and failures; and (c) the association's future—for instance, as a discipline and a profession—and how we might prepare for that future. The panelists and the chairperson spoke, in alphabetical order, to these topics. Their reflections, the questions their reflections evoked from the audience, and their follow-up comments are reported here.

REFLECTIONS

Donald M. Baer

The purpose of this panel is to predict, in part, the future of behavior analysis. To do so, I begin with the logic of evolution. Evolutionary theory suggests that if a niche exists, and if an organism can exploit that niche, then the survival of the organism should match that of the niche. By parallel, if a niche exists, and if a behavior can exploit that niche, then the survival of the behavior should match that of the niche. Behavior analysis consists of both organisms and behaviors; presumably, then, its future is the future of its niches. To predict our future, we should characterize our niches, and then assess the threats to their survival.

Niches. Universities are a very large niche for behavior analysis, but the discipline also solves problems important to society, thus another set of niches exists, for instance, in medicine, psychotherapy, and business. So far, we have expanded into all these niches. This growth, however, has been wonderfully fast and ominously slow. It is wonderfully fast, if you wondered if the discipline would survive at all. It is ominously slow, if you thought the discipline would overtake and replace the other behavioral, social, and cognitive sciences, and their applications. But, in either case, we are growing; we and our repertoires must have found some niches to exploit.

Threats in the university's niche. Are those niches in any trouble? These days, university administrations increasingly state that the logic of business must inform the conduct of the universities. Universities have become more expensive than funding allows, especially if universities are to continue to grow. Business logic dictates that the profitable parts of universities will survive, while the unprofitable parts will die, regardless of the supposed traditions of Western culture and the canons that unprofitable people may revere. Presumably, athletics, medicine, law, engineering, education, and drama will survive—athletics and drama because our society insists on being entertained, no matter how expensively, the others because they produce useful professionals our society insists should

be available in good numbers. The question is whether other disciplines or departments can be as entertaining or useful. Behavior analysis is clearly not entertaining; therefore, it should look to increasing its demand by our society.

Threats in society's niche. Another threat to our niche is the accelerating theft by other disciplines of parts of the behavioral technology we produce (e.g., in medicine, business, education, and psychotherapy). Our procedures are stolen, but simply as procedures, without acknowledging our disciplinary name or adopting our logic. Consequently, we receive no credit, and all the while societal demand focuses on the thieves, not on us. This demand will be short-lived, however, because the effectiveness of behavior-analytic technology will deteriorate quickly when separated from its logic.

For example, many people have learned how to do "time-out." Time-out is a good label in our society because it has such a prominent role in sports, but time-out is rarely behavior-analytic. For it to work, the contingency between a response, a time-out environment, and a time-in environment must be reliable; and the time-in environment must have better reinforcement contingencies and worse punishment contingencies than the time-out environment. This is too long for a sound bite, however. It also requires conceptual understanding: (a) assessing reinforcers, punishers, and reliable contingencies and (b) discriminating the assignment of contingencies between behavior and other events to contexts. Given the absence of that set of principles and concepts, time-out can only become less and less effective as a social practice. That kind of theft is a threat of one of our niches—our reputation as problem solvers.

Niches again. Nevertheless, we *are* problem solvers, which makes niches for us in medicine, special education, business, and therapy, and sometimes simply as ourselves. We get to be ourselves when no one else can solve a particular problem nearly so well as we can, and when the solution must be so thoroughly programmatic that it cannot easily be stolen without its name or logic or acknowledgement of its origin. We should never lose sight of our ability to find solutions of a programmatic kind or of the probability that, the more of those solutions we produce, the larger becomes our one unthreatenable niche. I have sometimes argued that application is an acid test of the generality of behavior-analytic principles. Now, I argue that, whether it is or not, application is a major means for disciplinary survival.

Experimental proof. We have one other niche that I trust to remain hospitable and exploitable—the unpredictably distributed passion in our society for something naively called "truth." We are an experimental discipline; we know most of what we know because we have proven it experimentally. The niche for experimental proof is very small; it lives only in the repertoires of properly educated people. I find it difficult to imagine that a society that survives will not have at least a small minority of such people. In the small world of experimentally proven truth, we can never be wrong. We may become a special case of some larger truth, but we can never be wrong: Behavior *does* work this way. Experimentally demonstrable proof will be some kind of niche.

Judith E. Favell

Judy Favell participated in the discussion, but unfortunately the audiotape of the session failed to record her reflections. She requested that the present article be published without them. Her comments during the question-and-answer period, however, were recorded and are included in that section.

Sigrid S. Glenn

I begin with the assumption that behavior analysis has all the elements of a scientific discipline: a well-specified subject matter, a scientific methodolo-

gy suited to that subject matter, powerful technologies based on findings of its science, and a distinct philosophy (Glenn, 1993). If behavior analysis is to have a future, it must function as a cohesive whole in the culture at large and be recognized as a discipline in its own right.

The incorporation of parts of behavior analysis in the methods, technologies, or philosophies of other disciplines provides no future for behavior analysis. Although desirable, inclusion as such does not guarantee the survival of behavior analysis as a coherent whole—as a cultural entity. For behavior analysis to survive, its parts must be functionally integrated and operate as a whole with respect to its internal and external environment. Internally, it must reproduce its practices from generation to generation. For this, behavior analysis has its own journals and organizations, through which the behavior of its participants is interrelated. As a result, the integration of the principles, methodology, technologies, and philosophy of behavior analysis is much like the cohesion found in other established disciplines.

Externally, behavior analysis is less clearly a cohesive whole, but positive signs are emerging. The certification of its practitioners and accreditation of its academic programs will help protect its integrity and deter those who would profit by associating themselves with our successes without benefit of the knowledge and skills needed to contribute to those successes. Perhaps the greatest threat to the emergence and survival of behavior analysis is the restriction placed on its capacity to replicate its practices. The future depends, in part then, on whether those restrictions are relaxed and behavior analysis can replicate its practices as parts of a whole. I believe that the answers, in both words and deeds, to the following questions will determine the future of our discipline.

Will there be researchers and practitioners trained as behavior analysts in the future? This question is not about whether researchers and practitioners will be trained to use single-subject design methodology or contingency management in the classroom, or to teach a course in applied behavior analysis. The question is about whether future researchers and practitioners will acquire repertoires that include knowledge and skills that reflect the breadth and depth of behavior analysis as a coherent discipline. The answer to this question depends on how successful behavior analysts currently are in developing the behavior-analytic repertoires of their descendants.

Because behavior analysis is often taught in the academic home of other disciplines or professions, most behavior analysts have difficulty conceiving of a behavior-analytic curriculum. The curricular experience of students and faculty has generally been that of a course or two in behavior analysis incorporated into a curriculum designed to produce members of another discipline. This incorporation is unquestionably a good thing. It provides a modicum of understanding of behavior-analytic principles by people in a wide variety of professions. It also opens an intellectual door for some people to develop more complete repertoires and participate in the discipline of behavior analysis itself. This marginal inclusion of behavior analysis, however, is not sufficient to sustain the existence of behavior analysis as a cohesive whole for future generations. Moreover, how can academic integrity be maintained when those who are not behavior analysts control behavior-analytic curricula? In these circumstances, curricula cannot arise, as good curricula should, from activities that define the discipline. Those who are not behavior analysts rarely understand the nature of the discipline. Rather, they take behavior analysis to be a set of techniques or methods possibly useful in their own discipline, but not as having its own disciplinary integrity.

Even ABA's own accreditation program, however, requires but four to seven graduate courses in behavior

analysis (see Hopkins & Moore, 1993), whereas certification requires additional course work as well as supervised practice (Shook, 1993). The development of curricula that include these courses and the research and practical training would appear to be the minimum requirements to ensure continuation of behavior analysis as a cultural entity. It is difficult to imagine that physicists, physicians, chemists, philosophers, or social workers would be taken seriously if their academic background included only four courses in their respective subject matters.

The longer term solution to ensuring a thriving discipline is the development of autonomous programs and departments. Historically, these have been found in several cultural contexts, including departments of psychology, special education, rehabilitation, human development, and—at least once—in a department of behavior analysis. From the present perspective, the academic unit that houses the behavior analysis program is not particularly relevant. The autonomy of the faculty in developing the curriculum and delivering the instruction is what counts. So, the answer to this question depends on how successful behavior analysts are in maintaining programs and departments that have a coherent behavior-analytic curriculum—and establishing new ones.

Will behavior analysts retain their identity as behavior analysts throughout their careers? If behavior analysis is to have a future, behavior analysts will have to continue developing their repertoires over the course of their careers. The behavioral contingencies currently supporting such repertoires mitigate against continuing education in behavior analysis per se. Indeed, powerful political and professional contingencies pull behavior analysts toward alternative affiliations. It would be absurd to expect their behavior to be immune to such contingencies. The only workable solution is to arrange contingencies that support behavior-analytic repertoires. This might be accomplished in a number of ways, two of which are mentioned here.

First, graduates of behavior analysis programs who take human service positions must be hired as "behavior analysts." Employers need to understand that behavior analysis is a unique profession, whatever the name of the degree program or department that produced the behavior analyst. Only then will consumers recognize that behavior-analytic services require highly specialized knowledge and skills. Only then will consumers not expect anyone with but a passing acquaintance with behavior analysis to function as a behavior analyst. Only then will behavior analysts who work for employers interested in their specific repertoires be required to produce behavior change that, in turn, will encourage them to continue developing their repertoires. These are among the contingencies most likely to maintain behavior-analytic repertoires (Ellis & Glenn, 1995).

Second, the certification of professional behavior analysts is another important step in the discipline's development (see Shook, 1993). As the public becomes aware of the effectiveness of behavior analysis, people with little training and interest in the discipline are claiming competence in it. Thus, some credentialing process is essential to protect consumers as well as the profession of behavior analysis. Although certification does not guarantee that those it credentials are experts (or even very effective), certification is a first step in precluding those whose only interest is to "cash in" on the success of behavior analysis. Certification also brings with it a continuing education requirement, wherein the education that is continued must be behavior-analytic. Finally, certification can enhance the viability of the discipline by increasing the number of behavior-analytic faculty positions, which brings me to the next question.

Who will train the behavior analysts of the future? The answer to this question will likely be "nobody" if behavior analysts do not ensure that the pre-

ceding two questions are not answered in the affirmative. The emergence of any discipline requires scientists and practitioners who are well trained in its concepts and methods and are committed to its further development. Indeed, some behavior analysts must be so committed to behavior analysis that their actions to further the discipline sometimes take precedence over those more likely to further their careers and their personal and financial status. Among the historical and current circumstances most likely to produce such individuals are ones in which many concurrent contingencies support the acquisition and maintenance of a highly developed behavior-analytic repertoire. This is most likely to occur in academic programs that have well-developed behavior-analytic curricula and faculty members whose primary identity is with behavior analysis.

Such settings are most likely to train and maintain the repertoires of behavior analysts who enter academia, and those who do enter academia must teach at least one course in behavior analysis. If they teach only other subjects, they will have little reason to continue their education in behavior analysis. This almost guarantees that their behavior-analytic repertoires will be superseded by those more consistent with current contingencies. Even teaching traditional subjects "from a behavior-analytic perspective" is not the same as teaching behavior analysis. It almost always requires behavior analysts to compare behavior analysis with something else, thereby setting them up among their colleagues as "biased" and "narrow."

Although the lone behavior analyst in an academic department is seemingly disadvantaged, the situation is better than having no behavior analyst at all. At the very least, they have the opportunity to create the need for a second behavior analyst and possibly, eventually, a program in behavior analysis. The needs of local service agencies, growing consumer interest in employees with behavior-analytic training, and the certification of behavior analysts provide both opportunities and leverage for justifying additional courses and faculty to the end of developing a behavior analysis program.

Will behavior analysis be rent asunder by division between its scientists and practitioners? Provided that practitioners have sound training in the basic principles, are conversant with basic and applied research, and have some understanding of conceptual issues, their professional training will be part of the larger and ever-evolving whole of behavior analysis. As part of this whole, applied researchers can bridge the work of practitioners and basic researchers by considering the complexities of the everyday world in the context of the basic principles, helping to find new and better solutions to problems (e.g., R. Smith & Iwata, 1997). In turn, basic researchers who understand both practice and applied research can conduct use-inspired basic research that addresses the problems that remain unsolved. In summary, if behavior analysts are educated in all areas of behavior analysis and have opportunities to function as behavior analysts—both in name and in action—then and only then might behavior analysis have a future.

Philip N. Hineline

Now and then. The first time I attended a meeting of the Midwest Association for Behavior Analysis (MABA), later ABA, it was held at the Blackstone Hotel in Chicago in May, 1976. In those days, the Eastern Psychological Association (EPA) was the main venue for basic behavior-analytic researchers, but to survive the stringency of its program requirements, we had to package our life's work into a 15-min format, leaving little opportunity for extended discussions of work-in-progress or conceptual issues. The MABA invited addresses, in contrast, greatly afforded such discussion and contributed importantly to MABA's becoming a successful, alternative venue.

However, basic and applied people were as yet hardly acquainted. Walking through the hotel lobby that first time, I saw no one I knew, although Roger Ulrich appeared later in the evening.

By now, we have enjoyed a quarter century's disciplinary and professional development, and basic and applied researchers are better acquainted. We have nurtured MABA—now ABA—to the extent of developing an international status, while at the same time bringing affiliate organizations into being. These developments support our intellectual and professional endeavors in various ways, but they have a downside: The success of our own meetings has cut into our attendance of others, for instance, those of the American Psychological Association (APA), the American Psychological Society, the Psychonomic Society, and EPA. People in those organizations could honestly and without malice conclude that we have all but disappeared.

On the upside, however, our current organization balances out these problems. We now can explicitly and collectively address problems that confront us. This is achieved sometimes through designated groups or task forces, sometimes by placing people in the right positions, and sometimes by taking advantage of positions that behavior analysts hold in other organizations. We also have taken the initiative to become less insular by inviting distinguished guests from fields with which we potentially share common interests. The annual ABA meeting is today an astonishingly rich experience for young students and newcomers as well as for seasoned researchers and scholars. Although the proliferation of so much concurrent richness presents us with difficult problems of choosing among it, I hope such problems will always be with us. However, some concerns need to be addressed if the larger, more formal organization is to achieve what a smaller, more informal one often does.

Success. First, in the applied domain, although the "bottom line" of successful intervention, as contrasted with attractive but ineffectual talk, is beginning to earn some recognition and respect, our success is beginning to run into some problems. For instance, in interventions for autism, we have a crisis: Thousands of parents desperately look to hire qualified behavior analysts to work with their children. As a consequence, in part, we have introduced new masters-level programs that meet these needs, but the academy remains oblivious to the necessity of training doctoral-level staff to run those programs. Behavioral programs for safety in the workplace, as well as organizational behavioral management (OBM) programs, are also gaining recognition, but their graduates more readily find corporate than academic employment. This validates their graduate training, but limits the rate at which university-based OBM programs can grow, and ultimately works against them. Direct instruction is also drawing more interest, but most colleges of education remain trenchantly opposed to behaviorally based teaching; thus, direct instruction is constrained in its growth. Similarly, developmental psychology—which *should* be the study of the evolving history of the individual and of the principles whereby typical and atypical behaviors develop—remains mainly a sequential catalog of the characteristics of the isolated, autonomous individual at various ages or stages of life.

Unconventionality. This last point shades into a second concern, this one in the conceptual domain, where our unconventionality poses both threats and opportunities. In the course of my career, I have come to understand behavior analysis in ways somewhat different from how I was introduced to it. In particular, my early training emphasized that behavior analysis was more objective and thus more scientific than other approaches, but I later realized that some other approaches have their own claims to scientific method, and are based on empirical data just as objective as our own. The key differences

were conceptual. Our conceptual system is a conjunction of several characteristics, each being at odds with conventions through which members of our culture are taught to describe themselves and explain their actions. This is the threat.

Our "culturally deviant characteristics," however, are not unique to us, but rather, are shared with some other major intellectual or cultural traditions. Indeed, some conceptual and intellectual developments have recently occurred in various far-flung fields that vindicate our unconventionality. A concern is that, although these developments are moving toward positions resembling those we have asserted all along, they do not recognize our views as relevant. This, however, is also an opportunity, for which I offer a few examples.

1. The deconstructionist movements in English literature, feminism, and social psychology begin by "clearing the ground" with arguments against "detached objectivity" that are remarkably similar to Skinner's (1945) arguments in "The Operational Analysis of Psychological Terms." Skinner asserted that the point is not objectivity, but rather, effective action.

2. A few years ago, APA published *Perspectives on Socially Shared Cognition* (Resnick, Levine, & Teasley, 1991), which was an awakening to the role of the verbal community, but it lacked a taxonomy and principles for dealing with the phenomena. These, of course, have been available since Skinner's (1957) *Verbal Behavior*. Several behavior analysts have systematically developed the account further (e.g., Cerutti, 1989; Zettle & Hayes, 1982). We even have a specialized journal focused on their still further development, *The Analysis of Verbal Behavior*.

3. Selection as a causal mode is not only our own way of interrelating ontogenic, phylogenic, and cultural phenomena (Skinner, 1981), but it has also come to be recognized as a similarly organizing rubric in the domains of biology (Dawkins, 1982; T. Smith, 1986) and developmental systems (Midgley & Morris, 1992).

4. We have come to recognize that the behavior-analytic conception of psychological process has, in its nonrepresentational characteristics, a close affinity to the Gibsonian "ecological" approach to perception. Simulations of adaptive networks based upon parallel distributed processing are similarly nonrepresentational in character, such that contemporary work in the computer modeling of psychological process has come to take selective principles as a major focus, rather than the quasirationalistic "working memory" of classic cognitivist theory (e.g., Donahoe, Burgos, & Palmer, 1993).

5. Chaos theory (Gleick, 1987), with its multiple scales of process, as in fractals, and its nonlinear dynamics based upon recursive processes whereby the result of a computation is fed into a repeat of the same computation, bears a strong resemblance to the multiply scaled closed-loop character of operant behavior (Catania, 1973; Hineline & Wanchisen, 1989).

How might we become better recognized in the context of these developments? Book reviews in the *Journal of the Experimental Analysis of Behavior* (*JEAB*) have identified many of the linkages (Catania & Hineline, 1996), but of course this does not bring them to the attention of the other audiences. Translating our work into the terms and systems of other traditions is constructive as well, but this, too, probably does not achieve the desired recognition. For example, Patterson's (1982) brilliant work on the origins of delinquency is fundamentally based upon behavior-analytic principles, but Patterson gained acceptance for his work by presenting it in conformity with the research designs and "modeling conventions" of sociology. He is highly regarded among criminologists, but I doubt he is known there as a behavior analyst.

We can also introduce these developments to colleagues in our home departments through the courses we

teach. For example, I titled one such course, "Topical Seminar: Behaviorisms Are Alive and Well and Living All Around You." After describing the methodological behaviorism of contemporary experimental psychology (e.g., cognitive psychology) and its generally conservative nature, I wrote:

> The most provocative contributions of behavioral theory, which have been consistently misunderstood or resisted, are supported by contemporary developments in a variety of fields, mainly outside of psychology—developments such as those in nonlinear dynamic systems ("chaos theory"), parallel distributed processing in computer science, deconstructionist movements in disciplines of history and literature, and selectionist principles in both embryology and neuroscience.

Several colleagues in the psychology department volunteered favorable comments about this course, but it only generated actual participation from students in behavior analysis. For another course attempt, I tried another tack:

> Surprising Alliances
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> Relationships that span the boundaries of disciplines or subdisciplines are most often recognized when they are brought to bear upon a common empirical domain. When these are seen as addressing the same or interrelated problems of social concern in complementary ways, attempts are devoted to coordinating the different approaches in cooperative research or interventions. When the relationships are seen as antagonistic, as in conceptually competing accounts of important phenomena, turf wars typically result, with struggles over funding or academic positions, and with little attempt by proponents of one position to understand the assumptions, methods, or merits of the other.
>
> More interesting, and the focus of this course, will be the relationships that arise through conceptual commonalities between domains that are commonly seen as unrelated.

Following this, I described the topics of this somewhat different course. Several psychology colleagues offered favorable comments about this course too, but again, their students did not enroll. This time, however, students in other disciplines did. Such is progress.

Maria E. Malott[1]

In my capacity as ABA's Executive Director and Secretary-Treasurer for the past 6 years, I often refer to the minutes of Executive Council (EC) meetings, which go back to 1976, to review previous discussions and decisions regarding current topics. I have found that several topics have been discussed at every EC meeting since the beginning of ABA, some of them at the top of today's agendas: growth with quality, accreditation, certification, continuing education, international development, self-assessment, and financial development. I review them here.

Growth with quality. In recent years, I have sensed that the EC has some admiration for the APA, but is also concerned about following its pattern of growth (see Evans, Sexton, & Cadwallader, 1992). Its concerns arise from seeing that growth can occur at the expense of science. APA has lost much of its tie to science in spite of its stated mission "to advance psychology as a science and profession" and of its attempts to promote psychology as a science (see Crawford, 1992). The EC has been concerned that ABA's growth should not threaten its scientific base, a concern expressed by the broader association as well (Branch & Malagodi, 1980; Edelstein, 1982; Fraley, 1981; Leigland, 1984; Michael, 1979; Morris, 1992; Pierce & Epling, 1980; Skinner, 1983).

The first gathering of ABA in 1974 (MABA until 1978) at the University of Chicago attracted 90 behavior analysts. They were attracted because of dissatisfactions with the program policies of the Midwestern Psychological Association (MPA). As Peterson (1978) noted, "little behavioral research of the sort currently published in *JEAB* and the *Journal of Applied Behavior Analysis* (*JABA*) was being accepted or presented at MPA" (p. 3; see also Dinsmoor, 1979; Peterson, 1979). Since 1974, ABA's membership has grown steadily, on the average of 3.71% a year; its affiliated chapters have grown dramatically. Today, ABA has 2,784 members, almost two-and-a-half times its number in 1977, when

[1] I thank Majda Seuss from the Association for Behavior Analysis for the careful editing of my portion of this article.

records indicate it had 1,191 members. Interestingly, it took APA almost 50 years to reach a comparable membership level (Camfield, 1992; Evans, 1992; Samelson, 1992). ABA also has 37 affiliated chapters (21 in the United States and 16 in other countries) with about 6,000 chapter members who are not members of ABA. Just as ABA membership has increased, so too has ABA's convention attendance. Peterson (1978) reported that the 1975 MABA convention in the Blackstone Hotel in Chicago attracted approximately 1,000 participants. Twenty-five years later at the Hilton Hotel, right across from the Blackstone, ABA broke records with 2,166 attendees. Convention attendance has grown at an average rate of 4.9% a year.

Accreditation of behavioral programs. The accreditation of behavioral programs has been on the agenda since 1977, when ABA's Education and Evaluation Committee was first assembled. The committee's directive was to strengthen recommendations concerning education, evaluation, and credentialing. One initiative was to develop a system that recognized and encouraged the development of high-quality masters and doctoral programs. In 1981, the Education and Evaluation Committee focused specifically on accreditation, and continued doing so until 1989 when the Task Force on Accreditation was created. By 1991, this task force had developed a process to accredit graduate programs in behavior analysis. Since then, ABA has accredited eight programs (e.g., at the University of North Texas, California State University at Los Angeles, Ohio State University, Western Michigan University, St. Cloud State University). Since 1998, with support from the Standards and Accreditation Committee, the EC has been exploring the development of criteria to accredit undergraduate programs.

Certification of behavior analysts. Since the beginning of ABA, the certification of behavior analysts has been considered an important protection for the integrity of the field, its consumers, and its employers. Until recently, though, for lack of a certification process, uncertified professionals have been able to include "behavior analysis" in their credentials, thereby excluding qualified behavior analysts (Shook, 1993).

Between 1977 and 1987, the Education and Evaluation Committee continued its early efforts at developing a certification program. These included proposals for certifying clinical procedures and forming a subcommittee of the Certification Board to address the use of aversive procedures. In 1987, ABA offered certification testing at the ABA convention, but the process had not been developed with rigorous enough standards. The EC therefore voted to suspend the exam, to request that the Certification Committee be disbanded, and to form a task force to evaluate future activities to ensure quality control and protection of the right to practice.

By this time, the state of Florida had spearheaded a successful certification process with the cooperation of its Developmental Services Program Office (Johnston & Shook, 1987; Shook, 1993). Nearly 1,000 professions were regulated in one or more states, but behavior analysis had only been regulated in Florida (Starin, Hemingway, & Hartsfield, 1993). In Florida, about 800 people have now been certified in behavior analysis (see Thomas, 1979, for a discussion of certification in Minnesota).

In 1998, ABA supported the development of an independent national certification organization, the Behavior Analysis Certification Board (BACB) (Shook & Hemingway, 1999). The BACB was established to adopt the Florida behavior analysis certification process for a national certification program. Today, the BACB is able to offer national certification testing for behavior analysts practicing in California, Florida, New York, Oklahoma, Pennsylvania, and Texas, to date certifying over 400 behavior analysts.

Continuing education. Continuing education initiatives have focused on providing training in behavior analysis that counts toward the certification of psychologists and behavior analysts. In 1977, ABA applied to the APA to become a provider of such continuing education credits and was approved as a cosponsor in 1979. In 1981, the Continuing Education Committee was established, and included the chairperson of the ABA convention Program Committee and representatives of ABA affiliated chapters. In 1992, the EC approved the criteria for workshop review, and the Continuing Education Committee procedures were developed into a standard review process. Since then, ABA has regularly offered APA continuing education for preconvention workshops and workshops cosponsored with a private organization that organizes training opportunities in behavior analysis. Becoming an accrediting agency for APA and the California Psychological Association (CPA) has allowed ABA to provide continuing education for behavior analysts who are licensed as psychologists.

To assist psychologists in California in obtaining continuing education credits, ABA became an accredited continuing education provider of Mandatory Continuing Education for Psychology (MCEP) from the CPA in 1996. As a result, ABA regularly offers MCEP credits for its preconvention workshops to California licensed psychologists. In 1997, ABA arranged for the Florida Association for Behavior Analysis (FABA) to provide continuing education to Florida certified behavior analysts at the ABA annual convention, a service that has been provided to FABA ever since.

In all, during last year, ABA provided 1,047 APA credits to 227 people and 57 MCEP credits to 14 people. Since 1996, the continuing education credits provided by ABA through both APA and MCEP have increased 332%.

International development. International initiatives at ABA are as old as ABA itself (Malott, Davison, & Sato, 1999); in fact, in 1978, the EC added "An International Organization" as a descriptor of ABA. In the last 10 years, international membership has grown 87%. Today, about 10% of ABA members live outside the U.S.; the international affiliated chapters have an estimated 3,800 members. ABA currently has members from 33 countries outside the U.S., with the highest membership from Brazil, Canada, Japan, Norway, and the United Kingdom. Latin America has the highest representation through affiliated chapters. Of the international members, 39% are full members, the same proportion as in the total membership. In 1999, about 77% of ABA's membership attended the annual convention. Twenty countries were represented, and 146 international members were present—over half of the international membership. Among the main international initiatives have been the activities of the International Development Committee, strategic planning, the approval of international conferences, and increased international representation on the EC, as follows.

The International Development Committee was formed in ABA's first year and has been active in ensuring that international behavior analysts are well represented at the convention. To that end, the committee established initiatives such as a special poster session ("ABA Around the World") and an annual breakfast to welcome international members. In 1986, the committee requested that ABA create a mechanism for recognizing the international development and diffusion of behavior analysis. In 1990, an award was created, known today as the Society for the Advancement of Behavior Analysis (SABA) award for International Dissemination of Behavior Analysis.

To develop behavior analysis internationally, ABA conducted several strategic planning sessions after its 1994, 1995, and 1996 conventions. These were facilitated by its presidents; they included members of the EC as well as dedicated international behavior analysts. Their initiatives pro-

vided the basis of our more recent international development. For example, since 1986, ABA had been discussing how to hold a successful conference outside the U.S. In 1998, the EC approved that an international conference be held every 3 years in addition to the regular convention. The first conference will be in Venice, Italy, in November 2001. In 1998, for the first time in its history, ABA's full members elected someone other than a U.S. citizen as President—Masaya Sato (Japan). And in 1999, ABA members voted to add an international representative to the EC.

Assessment of the discipline. In 1987, the EC established a task force to craft a proposal for the self-study of the discipline. Editors of *JABA* and *JEAB* were invited to serve on the task force, which developed proposals in 1988 and 1989. In 1997, a self-study of behavior analysis was again addressed, with a proposal that addressed human resources and basic and applied behavior analysis. In 1998, the EC agreed to address the human resource section of the study, including an assessment of training, graduate programs, graduates, employment, and faculty in behavior analysis. The study began in 1999. Its results will aid the EC in its future strategic initiatives.

Financial development. Since ABA's inception, its main sources of income have been membership dues and convention registration fees. With the exception of 1988 and 1994, ABA's assets have grown steadily, with an operating budget today of nearly half a million dollars. Much of the funding, however, has been used to support the organization administratively, leaving little room for significant investments in the discipline. Indeed, only recently has ABA had the financial reserves to protect it from emergencies and begin investing in significant projects, such as those mentioned above (e.g., international development, national certification, liaisons with related professional organizations).

As for fund-raising, ABA's initiatives were initially slow to develop because ABA relied almost exclusively on the volunteer work of its members. In response, SABA was created in 1980 as a philanthropic organization under federal tax code 510(c)3 to provide tax incentives to encourage donations in support of behavior analysis. Throughout the years, SABA's fundraising initiatives have included the creation of specific funds, minimal donation options on ABA membership forms, marketing brochures, and letter-writing campaigns for donations. In 1993, the SABA board of directors decided that, to raise funds, several specific initiatives should be carried out. As a result, SABA was organized into various boards: Leadership, Education, Research, and Publications. In 1995, as part of reorganization, the SABA board realized that the boards duplicated the efforts of ABA at a considerable financial cost to both organizations. With the advice of ABA's accountants and legal support, the SABA board refocused on the original mission of financial support and transferred all board activities to ABA (Lattal, Glenn, & Malott, 1994).

Today, SABA is a memberless organization supported by the ABA staff. SABA's current assets are about $200,000, with several restricted funds used exclusively for the purpose of their donation, perhaps the most significant of which is the Sidney W. and Janet R. Bijou Fund, established in 1996 with their donation of $100,000. The Bijou Fellowship Program provides an annual grant of $5,000 to a doctoral student investigating child development from a behavior-analytic perspective. A second important fund is the SABA Endowment, which has been allocated to provide a $5,000 annual grant to a graduate student who has demonstrated excellence in and commitment to basic investigation in behavior analysis. The first release of these monies will occur when the fund reaches $100,000; currently, the fund balance is about $72,000. SABA is also today able to provide three annual

grants for international development and to sponsor registration of senior student presenters attending the ABA convention.

Conclusion. This is an exciting time for the growth of behavior analysis. There is a positive trend in the number of behavior analysts, as well as in the association's financial development. In addition, significant efforts to preserve the integrity of the field are being realized, such as accreditation, certification, and continuing education (Green, 1999). It is also a good time for a self-assessment of the discipline of behavior analysis. I trust the growth of behavior analysis will continue in the years to come.

Jack Michael

The past. In my 1978 ABA presidential address, titled "Flight from Behavior Analysis" (Michael, 1979), I used the good news–bad news approach. The good news was easy to address and could be repeated today, namely that there are more and more behavior analysts actively involved in many important contributions to society and humankind in general. Our organization's membership and conference attendance were growing, and many articles, books, journals, and other materials were available for instructional purposes for students interested in such instruction.

The bad news, though, was mainly what I was concerned about: Our instructional materials seemed to be influencing a smaller and smaller proportion of the people working in the field. I complained that the spread of behavior analysis into applied areas had resulted in behavior analysts who were less able to analyze human behavior in terms of reinforcement, stimulus control, motivational variables, generalization, discrimination, respondent conditioning, and so forth. More people were working in the field, but they were less able to do what I considered to be true behavior analysis. Many of them were not even interested in such analyses, but were instead concerned with identifying a reliable measure of a relevant behavior and providing an experimental design and a form of data analysis that were internally and externally valid. They were also concerned with changing behavior in some favorable direction and proving that the change had really been due to the independent variable. But, they were relatively uninterested in explaining why the independent variable had its effect. The introductory and discussion portions of research reports seemed to become shorter and shorter. As a guest editor, I found myself often encouraging authors to attempt at least some explanation of the results in terms of behavioral principles and concepts or to revise an attempt that I considered shallow or full of conceptual flaws.

Don Baer (1980) was the next president of ABA, and he based his presidential address on mine, agreeing with almost all my bad news, but seeing it instead as good news. Whereas my address, "Flight from Behavior Analysis" (cf. Skinner, 1959), was concerned with a retreat from what had been a better past, Don called his "A Flight of Behavior Analysis," in the sense of an ascent to a better future. His general point was that although many people were being trained to do applied work and were perhaps neither able nor inclined to analyze what they were doing in terms of the basic behavioral principles, they really did not need to. The applied field was going to do a lot of good for the field of behavior analysis, and for humankind in general, and I should not worry.

In converting my bad news into good news, Don offered two personal anecdotes. In the first, he mentioned a friend who volunteered to be the photographer at one of Don's weddings. His friend used high-speed film and no flash, was hardly noticeable during the wedding, and later gave Don many delightful prints processed in his own darkroom. Don knew the photographer well and was quite sure that he had lit-

tle technical understanding of optics, camera mechanics, or the chemistry of film. In the second anecdote, Don mentioned another friend, a professor of physics whose specialty was optics, but who had no camera skills even sufficient to take pictures of his daughter in a natural play setting. Don himself took such a picture for his friend, and it was much appreciated. Don's point was that we need photographers who are good at their craft, but they do not have to know much about physics, and we need physicists to tell us about optics, but they do not have to be photographers. He made a similar case for biologists and physicians, and ultimately for basic behavior analysts and applied behavior analysts.

Just as Don considered it an important division of labor that wedding photographers could acquire their highly valuable skills without having to master the physics and chemistry underlying photography, so too was it good news that behavior analysis was developing a similar division of labor. It was good news that behavior analysts involved in basic research were not being distracted from their good work by having to make applications, and that applied people were not deterred from learning highly effective practices by having to take many graduate-level courses in the basic science of behavior. Although I am not convinced of the value of the physicist–wedding photographer and the biologist–physician analogies to our basic and applied fields, Don's case was clearly and elegantly stated, and I think he had the better argument, especially to the point that I had no serious reason to worry about the development of the field.

The present. If I were giving a presidential address today, I would first dwell on the growth of the applied area as a form of very good news. By making explicit use of reinforcement, many more people are "doing good" than in 1978, and are doing it in an ever-widening range of human activities. The increasing pressure from managed care organizations for empirically validated procedures has given our behavioral clinical psychologists more status and power than they have ever had. Developmental disabilities is, in many respects, now a field of applied behavior analysis and, within that field, the treatment of children with autism has led to a rapid growth in the use and understanding of behavioral approaches to language. I have heard Skinner's (1957) *Verbal Behavior* referred to more often at this meeting, largely by people working in the area of autism, than at any previous meeting. Improving the performance of employees and managers in industry, business, and human services—organizational behavior management—is an increasingly attractive and profitable place for those with behavioral training. Behavioral safety programs are springing up faster than they can be staffed. Rapid growth is also occurring in the behavioral management of nonhuman animals—household pets, farm animals, animals in zoos, and animals living in the wild—resulting in an improved quality of life for both the nonhumans and the humans who interact with them. I have not seen much growth in behavioral approaches to public education, but some private and charter schools are making considerable use of direct instruction, precision teaching, and related approaches. If such schools are clearly successful and increase in number, then public education may be forced to become more explicitly behavioral. In a related educational activity, the increasing use of computer-based instruction in business and the military seems to be leading to an increased awareness and use of behavioral approaches to instructional design. In general, the growth that I saw as good news in 1978 has continued and has been extended into many new areas. Don was certainly right about the viability of the applied field. In his sense, it has truly been a "flight"—a soaring ascent.

It is good news that behavioral terms are used more often in applied settings

today than 20 years ago, but there is still some bad news. The full potential of our technical language cannot be realized when, for instance, the terms *respondent conditioned elicitors, operant discriminative stimuli,* and *establishing operations* are used interchangeably or when the ubiquity of aversive control is overlooked. However, things may be improving. In the human services, the move toward certification of behavior analysts is forcing many practitioners to acquire or reacquire an accurate verbal repertoire and to maintain and upgrade their repertoires with continuing education. From my perspective, such a repertoire contributes greatly to our ability to understand and alter behavior in socially desirable ways. I think that applied workers who are doing good by using what they call (not always accurately) positive reinforcement can do even better with a larger and more precise set of concepts. The extent to which this repertoire will continue to occur in practical applications remains to be seen, but I am hopeful that a more informed verbal community will function to maintain and support further sophistication.

What about the area of basic research and theory? There have clearly been a number of important changes, for example, the growth of stimulus equivalence research and theory; links with other disciplines, such as evolutionary biology, economics, and neuroscience; efforts to use computer models of adaptive neural networks as a way of understanding behavior; and the increasing interest in quantification. With the exception of the adaptive neural network models, however, most of the efforts at quantification are clearly in the direction of molar as opposed to molecular analyses, a direction about which I have some misgivings. With respect to quantification in general, though, starting in 1994, the Society for the Quantitative Analyses of Behavior (SQAB) has been scheduling its annual meetings the day before the ABA convention and in the same hotel. SQAB members now also provide several instructional sessions ("invited preeminent tutorials") as a part of ABA's regular program.

These developments in basic research seem to be a form of good news, both in introducing potentially important new forms of behavior analysis and in strengthening the relation between basic and applied research. Indeed, applied researchers now sometimes refer to the matching law and behavioral momentum, and stimulus equivalence has become an explicit feature of some approaches to behavior therapy. However, the extent to which these developments can contribute to application is difficult to determine. For example, current efforts to use the matching law or behavioral momentum in applied work are not yet obviously an improvement over more traditional applied behavioral approaches. Still, any explicit attempt by applied researchers to tap into current basic research is clearly very good for both fields.

Conclusion. As to the future of ABA, I see a continuation of the present good trends, but with an accelerated rate of change resulting from extensive use of computers and the Internet. Sometimes, however, discussions of the future are initiated with a negative insinuation, as when I am asked "Don't you see the state of behavior analysis being less deserving of optimism at the present time than earlier?" I answer, "No, not at all." Over the past 25 years, things have steadily improved. Consider that ours is a difficult and unattractive point of view, one that is incompatible with most laypeople's and most scholars' understanding of the human situation. It rejects the fact–value dichotomy; it is not supportive of values as values (Skinner, 1971). Its analysis of the causes of human behavior, especially of human language, renders many cherished beliefs no more significant or valid than the salivation of Pavlov's dogs or the lever pressing of Skinner's rats. Nevertheless, we have not been done away with. We are steadily growing in numbers. Our in-

fluence in many applied areas is greater than ever before. The relation between the basic and the applied field is still quite satisfactory. By and large, everything is good. And, a lot of the integration and dissemination—a lot of the goodness—is due to the organization called the Association for Behavior Analysis.

Edward K. Morris

My reflections are brief and interrelated. First, one of the best initiatives the association ever undertook was to involve students in its organization, to give them a vote in its governance, and to provide them with opportunities for professional development. Although many cultural practices remain to be altered, we have altered one such practice within our association by not discriminating among ourselves based solely on academic degrees. Students are the future of the association, the discipline, and the profession of behavior analysis.

Second, with students comes education, specifically, education in the three subdisciplines of behavior analysis—basic, applied, and conceptual analysis. Given that the association has students—they are us—the future of the discipline and the profession is dependent on the quality of the education we are able to provide. On this account, our academic departments and programs, our curricula, our courses, and our practica have to be rigorous, well rounded, and up to date. They also have to be effective and socially valid. One of my initiatives as president of ABA was to establish the Teaching of Behavior Analysis Special Interest Group. Dick Malott was its first chairperson (*TBA News*, 1993); Roger Bass is the current chairperson. The group can use more time and energy from ABA's overall membership. To assist, please contact Roger (3978 Highway LL, Port Washington, WI 53074-9790) or E-mail him (RFB53074@AOL.COM).

Third, if behavior analysis is to have a future, not only must we continue our own education in basic, applied, and conceptual analyses, but we must also educate the culture at large. Much of the culture, of course, does not desire or even know about the education we have to offer, but when it does, we have a responsibility to provide it and, in many cases, to require it. We have the responsibility to promote behavior analysis through its dissemination (Morris, 1985) and through educational initiatives (Chance, 1998), and to defend behavior analysis from those who would teach it badly in educational (Todd & Morris, 1983), professional (Catania, 1991), and applied and clinical (Heward & Cooper, 1992) settings.

Even if we make ourselves individually more effective as behavior analysts, and even if we take behavior analysis to the culture at large, ABA will still need a certification program for its practice (Shook, 1993) and an accreditation program for academic studies (Hopkins & Moore, 1993). In other words, our efforts to ensure the future of behavior analysis will require practices internal to our discipline, profession, and association, as well as practices external to them—practices that reach into the culture at large. If we fail to adopt or maintain either set of practices, then I think the near future of behavior analysis and our association will be in jeopardy. But like Jack Michael, I am optimistic. We have been, are currently, and seemingly will be adopting the requisite practices.

AUDIENCE QUESTIONS AND PANEL COMMENTS

Query: Susan Fowler

ABA and the ABA convention have continued to grow in membership and attendance, but I am concerned about our journals—*JABA* and *JEAB*. Their subscription rates have been declining, down now to about only a thousand apiece. Should we be concerned about the effects of these numbers on their respective subdisciplines?

Comments

Hineline. I give all the students working in my laboratory who are reasonably committed to behavior analysis free subscriptions to *JEAB* and *JABA*. The subscription rates are favorable: It costs me approximately $100 per year. All of us who work with young people have opportunities to have them sample the journals. [For *JEAB*, write Devonia Stein, Department of Psychology, Indiana University, Bloomington, IN 47405-1301; phone: 812-339-4718; for *JABA*, write Mary Lou Wright, Department of Human Development, University of Kansas, Lawrence, KS 66045-2133; phone: 785-843-0008.]

Baer. It can be unprofitable to publish applied research in *JABA*. It is more profitable to publish in the specialty journals, especially if you want outside funding. Agency reviewers often ask how much you publish in the journals of the relevant field of specialization. Behavior analysis is not a field in which applied work gets funded; instead, such fields as early childhood, autism, and aging are those that receive funding. There may be some profit in reading *JABA*, in addition to the specialty journals of the relevant field, but this may soon be irrelevant. Electronic communications have made it increasingly unnecessary to subscribe to any journals, yet one is still able to read them.

Michael. Don's point is very reasonable. A lot of people do not publish in *JEAB* and *JABA* because of the rigorous methodological standards adhered to by those journals, or because other journals seem more relevant to a specialized audience. Many behavior analysts do not read those two journals as much as they used to because the things they are interested in are now found in the more specialized journals. In other words, the kind of information that was only available in *JEAB* and *JABA* can now be found in other sources. For instance, *The Behavior Analyst*, distributed to ABA members at no charge beyond the membership fee, is a source of general reviews of empirical and theoretical issues, as well as articles related to behavior analysis as a profession. *The Analysis of Verbal Behavior* contains empirical articles, reviews, and conceptual analyses dealing with language. At least 10 or more applied journals are highly behavioral in orientation or at least are receptive to behavioral submissions; those journals are still excellent sources of the highest quality behavioral research and theory. In summary, these audience and readership variables may result in fewer *JEAB* and *JABA* submissions than in previous years, but there are still plenty to guarantee continued publication. Moreover, *JEAB* and *JABA* are excellent sources of the highest quality behavioral research and theory and, for that reason, will remain viable.

Baer. Another contingency: As applied researchers move into new fields, they often find it impossible to have as much experimental control as the editorial standards of *JABA* and *JEAB* demand. Although these researchers send manuscripts to those journals, the manuscripts are rejected. They then try another journal that is more tolerant of how difficult it is to do research in a new area with a new approach. That is still another reason why we will not read about pioneering efforts at the edges of our discipline in *JABA*. Only after they are routine and sophisticated will they appear there.

Audience follow-up: Jon Bailey. The number of subscriptions to *JABA* is actually up, as is its acceptance rate. So, whereas 10 to 25 years ago, the acceptance rate was 15%, it is now 30%, and more and more people are submitting manuscripts.

Query: Linda Keyes

I attended a presentation at which the speaker said no innovations have taken place in behavior analysis since the death of B. F. Skinner. Would the panel please comment?

Comments

Hineline. I think we have been suitably cautious about innovations in the conceptual domain, where the coherence of our network of terms is exceedingly important. Indeed, our degree of coherence in this domain is unique in the psychological sciences. Now and then, however, people have noted specific needs for additional concepts. For instance, although people spoke of shaping by successive approximations for many years, that was not always what they were doing. They were often doing what is called "contingency adduction," wherein we establish component repertoires and arrange for them to occur together, which then produces consequences and becomes a new unit of behavior (see Andronis, Layng, & Goldiamond, 1997; Catania, 1998, p. 161).

As for the applied domain, when we started this work, we tended to accept problems as they were presented to us, meaning that somebody was doing something we wished they were not doing and we stopped it. Today, that would be unethical. We now begin with functional analyses to discover what the behavior is accomplishing, that is, its function within the person's repertoire (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994). Here, we often find that consequences, in and of themselves, are usually not the problem. The problem is the lack of behavior that achieves those reinforcers in socially appropriate ways; thus, our interventions involve teaching new ways to produce the consequence. This is a profound advance; without it, we encounter recidivism. Our sophistication in functional analysis and in discovering appropriate substitutable responses feeds back to how well we understand things conceptually.

Michael. At the time Skinner entered the field of psychology, he had an intellectual repertoire that permitted him to make a major breakthrough. Discovering and analyzing the operant were profoundly important; their implications are still not yet fully realized. If we had done nothing between 1938 and today but simply made increasingly effective use of what appeared in *The Behavior of Organisms* (Skinner, 1938), we would have made many valuable contributions. So, although many new things may not have been discovered, this is not because people have been inactive or uncreative, but rather because Skinner got the basic functional relations right in the first place.

Baer. I agree. Perhaps the issue reduces to, "You mean Skinner has not been found to be wrong yet?" In psychology, whatever we do this year will be old, wrong, and abandoned next year. In behavior analysis, in contrast, we should expect the opposite, for we build only on correctness.

Michael. One more point: There will be no new Skinner, at least not for quite a while. The question "Who will be the next Skinner?" has no answer. Major breakthroughs rarely take place. When they do, new principles are discovered, are analyzed, and are applied to new fields for quite some time.

Morris. The question raises a problem and suggests a solution. If the misperception exists—either inside or outside behavior analysis—that nothing innovative has occurred since Skinner's original contributions or since his death, then one solution would be to review the literature and then publish—in any of the behavior-analytic subdisciplines. Such manuscripts would be appropriate for *The Behavior Analyst* or the more specialized journals (e.g., *JEAB*, *JABA*), but a better venue might be general psychology journals such as the *American Psychologist.*

Query: Joel Farb

When I left the University of Kansas, my mission was to take applied behavior analysis beyond academia into the world of application where there was a great need. What I found, in part, is that we have done a poor job

of marketing. What do I tell parents and teachers about where they can find information on applied behavior analysis? They are not going to read *JABA*. If I send them to a bookstore, I cannot even give them the name of one reference. There is nothing for the public that addresses topics such as "behavior analysis in everyday life." There is nothing for the public on behavior analysis in the classroom. Your comments?

Comments

Favell. Looking back on Maria Malott's list of themes in the EC meetings, one more probably should be added: How can we reach out? How can we change our language? How can we describe what we do in ways that soften the message, that make us more popular, especially given how some of what we fundamentally say and do runs counter to some cultural practices? There are some positive examples, however. Glen Latham (1994, 1998), for instance, has done a wonderful job of explaining child rearing and classroom practices in a user-friendly, yet very clearly behavior-analytic, way. And, there are newsletters such as Joe Wyatt's *Behavior Analysis Digest* [write W. Joseph Wyatt, P.O. Box 844, Hurricane, WV 25526; phone: 304-696-2778].

ABA needs to regroup and ask how well we are proceeding in some of these efforts. During my years on the EC, we spent a lot of time, for instance, on the "Human Capital Initiative," trying to inculcate our practices and conceptualizations into position papers that could be used broadly in a variety of areas (e.g., literacy, violence). That we do not see them now may mean that they have become mainstream or that we acted in ways that were not productive. I think we should ask ourselves where we stand in such regards. We all seem to agree that we have to reach out with a language and approaches that the world understands.

Hineline. Identifying popular and professional behavior-analytic books and manuals has concerned me for quite some time. I have long thought that we needed a consortium catalog that would identify all the truly behavior-analytic publications in one place. Publishers would then be encouraged to produce more materials because they could have a targeted mailing. The catalog, however, never came to fruition, although the Cambridge Center for Behavioral Studies [see www.behavior.org] is now addressing it. It could also be produced on a dedicated Web site, for this is becoming the way people look for information. In less than a week's time, someone with the proper skills could produce a useful catalog based merely on the book exhibit at this meeting. This could be done almost immediately.

Baer. I have tried to change some behaviors in a variety of settings and frequently failed. On those occasions, I talked to myself and to my colleagues about the problem in the language designed to analyze the cause of failure, sometimes in the end succeeding. I think behavior-analytic language, despite its arcane nature, is nevertheless a superbly analytic language. Calls to translate it into user-friendly language may be wonderful marketing, but they make me uneasy. Before we change it, I want to see a demonstration that we can be just as analytic and successful with a friendlier language as we are with our own apparently unfriendly language.

Michael. This reminds me of someone encountering a physicist at a cocktail party and asking, "What do you do?" The physicist replies, "I work in the area of quantum mechanics." The other person asks for more information: "What is quantum mechanics? Explain it to me in everyday language that I can understand." A physicist who wants to be perfectly honest could say, "I cannot explain it to you in everyday language. It does not follow from everyday language. We have to go to a technical language, in this case

the language of mathematics. How are you with calculus, and especially with differential equations?" Well, it is the same with behavior analysis. I know that some members of this audience will disagree, but I do not think we should worry that our technical behavior-analytic language is not user-friendly, that is, not user-friendly to people without the requisite training. When possible, we should of course provide language appropriate to the listener's background, but we should not change our language to something less appropriate to our technical needs.

Glenn. It would be a terrible mistake for us not to retain our language. It is the coin of our realm; if we lose it, we lose almost everything (see Hineline, 1980). As one historian of science has noted, the "winners" in scientific evolution are those whose language remains in the scientific culture, even as the meaning of their technical terms evolves over time (Hull, 1988). Retaining our language, however, does not mean we are relieved from translating for the public. I agree with Judy Favell. Books like Latham's (1994, 1998) are excellent means for teaching people to use behavioral principles.

Even in accomplishing this, we may be missing still other educational opportunities. Writers in many scientific disciplines have conveyed, in aesthetically appealing language, the core concepts of their disciplines. Dawkins (1986) is a prime example. He presents a case for evolutionary theory in lucid and brilliant prose. But he has an advantage over us: He anthropomorphizes genes, while cautioning against taking him literally, yet we dare not anthropomorphize, for this is part of our problem. What we need are about two dozen people to write for the public—not to teach them behavior analysis, for which whole curricula are needed—but to convey the excitement and intellectual challenge of understanding behavior naturalistically.

In summary, we must retain our language so we can talk to one another and create a future. But, we also need to help the public understand our concepts in a language they understand. That may keep the door open to our future in the culture at large.

CONCLUSION

The issues discussed during this session concern the vitality, even the viability, of ABA as a disciplinary and professional entity and of behavior analysis as a cultural practice. Addressing these issues is a professional activity that may yield verbal solutions—coherence and correspondence—to problems that can then be acted on in more pragmatic ways, that is, in ways that yield understanding through prediction and control and in ways that might then be selected as we and our culture evolve. We cannot afford to be laissez faire or fatalistic about the future. We need to be active and vigilant, both reactively and proactively. In the context of broader cultural practices, we need to design a community that ensures our survival (Skinner, 1948, 1953, 1971).

REFERENCES

Andronis, P. T., Layng, T. V. J., & Goldiamond, I. (1997). Contingency adduction of "symbolic aggression" by pigeons. *The Analysis of Verbal Behavior, 14,* 5–17.

Baer, D. M. (1980). A flight of behavior analysis. *The Behavior Analyst, 4,* 85–91.

Boneau, C. A. (1992). Observations on psychology: Past and future. *American Psychologist, 47,* 1586–1596.

Branch, M. N., & Malagodi, E. F. (1980). Where have all the behaviorists gone? *The Behavior Analyst, 3,* 31–38.

Camfield, T. M. (1992). The American Psychological Association and World War I: 1914 to 1919. In R. B. Evans, V. S. Sexton, & T. C. Cadwallader (Eds.), *The American Psychological Association: A historical perspective* (pp. 91–118). Washington, DC: American Psychological Association.

Catania, A. C. (1973). The concept of the operant in the analysis of behavior. *Behaviorism, 1,* 103–116.

Catania, A. C. (1991). The gifts of culture and of eloquence: An open letter to Michael J. Mahoney in reply to his article, "Scientific Psychology and Radical Behaviorism." *The Behavior Analyst, 14,* 61–72.

Catania, A. C. (1998). *Learning* (4th ed.). Englewood Cliffs, NJ: Prentice Hall.

Catania, A. C., & Hineline, P. N. (1996). *Variations and selections: An anthology of reviews from the Journal of the Experimental Analysis of Behavior.* Lawrence, KS: Society for the Experimental Analysis of Behavior.

Cerutti, D. T. (1989). Discrimination theory of rule-governed behavior. *Journal of the Experimental Analysis of Behavior, 51,* 259–276.

Chance, P. (1998). *First course in applied behavior analysis.* Pacific Grove, CA: Brooks/Cole.

Crawford, M. P. (1992). Rapid growth and change at the American Psychological Association: 1945 to 1970. In R. B. Evans, V. S. Sexton, & T. C. Cadwallader (Eds.), *The American Psychological Association: A historical perspective* (pp. 177–232). Washington, DC: American Psychological Association.

Dawkins, R. (1982). *The extended phenotype.* New York: Oxford University Press.

Dawkins, R. (1986). *The blind watchmaker.* New York: Norton.

Dinsmoor, J. A. (1979). A note on the historical record: MPA and MABA. *The Behavior Analyst, 2,* 22–24.

Donahoe, J. W., Burgos, J. E., & Palmer, D. C. (1993). A selectionist approach to reinforcement. *Journal of the Experimental Analysis of Behavior, 60,* 17–40.

Edelstein, B. A. (1982). A comment on Baer's "A Flight of Behavior Analysis." *The Behavior Analyst, 5,* 103–104.

Ellis, J., & Glenn, S. S. (1995). Behavior-analytic repertoires: Where will they come from and how can they be maintained? *The Behavior Analyst, 18,* 285–292.

Evans, R. B. (1992). Growing pains: The American Psychological Association from 1903 to 1920. In R. B. Evans, V. S. Sexton, & T. C. Cadwallader (Eds.), *The American Psychological Association: A historical perspective* (pp. 73–90). Washington, DC: American Psychological Association.

Evans, R. B., Sexton, V. S., & Cadwallader, T. C. (Eds.). (1992). *The American Psychological Association: A historical perspective.* Washington, DC: American Psychological Association.

Favell, J. E. (1992, May). *Changing behavior: Perspectives on the past, prospects for the future.* Presidential address presented at the meeting of the Association for Behavior Analysis, San Francisco.

Favell, J. E., Azrin, N. H., Baumeister, A. A., Carr, E. G., Dorsey, M. F., Forehand, R., Foxx, R. M., Lovaas, I. O., Rincover, A., Risley, T. R., Romanczyk, R. G., Russo, D. C., Schroeder, S. R., & Solnick, J. V. (1982). The treatment of self-injurious behavior. *Behavior Therapy, 13,* 529–554.

Fraley, L. E. (1981). The spread of behavior analysis to the applied fields. *The Behavior Analyst, 4,* 33–41.

Gleick, J. (1987). *Chaos.* New York: Viking.

Glenn, S. S. (1993). Windows on the 21st century. *The Behavior Analyst, 16,* 133–151.

Green, G. (1999, May). *Behavior analysis in the new age.* Paper presented at the meeting of the Association for Behavior Analysis, Chicago.

Heward, W. L., & Cooper, J. O. (1992). Radical behaviorism: A productive and needed philosophy of education. *Journal of Behavioral Education, 4,* 345–365.

Hineline, P. N. (1980). The language of behavior analysis: Its community, its functions and its limitations. *Behaviorism, 8,* 67–86.

Hineline, P. N. (1990a). Message from the president. *ABA Newsletter, 13*(2), 7–8.

Hineline, P. N. (1990b). Message from the president. *ABA Newsletter, 13*(3), 1–3.

Hineline, P. N. (1991). Introducing behavior analysts and behavior analysis. *ABA Newsletter, 14*(3), 7–8.

Hineline, P. N., & Wanchisen, B. A. (1989). Correlated hypothesizing and the distinction between contingency-shaped and rule-governed behavior. In S. C. Hayes (Ed.), *Rule-governed behavior* (pp. 221–269). New York: Plenum.

Hopkins, B. L., & Moore, J. (1993). ABA accreditation of graduate programs of study. *The Behavior Analyst, 16,* 117–121.

Hull, D. L. (1988). *Science as a process.* Chicago: University of Chicago Press.

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis, 27,* 197–209. (Reprinted from *Analysis and Intervention in Developmental Disabilities, 2,* 3–20, 1982)

Johnston, J. M., & Shook, G. L. (1987). Developing behavior analysis at the state level. *The Behavior Analyst, 10,* 199–233.

Latham, G. I. (1994). *The power of positive parenting.* North Logan, UT: P&T Ink.

Latham, G. (1998). *Making home a safe and friendly place.* North Logan, UT: P&T Ink.

Lattal, K. A., Glenn, S., & Malott, M. (1994). Financing behavior analysis. *ABA Newsletter, 17*(4), 2–3.

Leigland, S. (1984). Can radical behaviorism rescue psychology? *The Behavior Analyst, 7,* 73–76.

Malott, M. E. (1999a). ABA celebrates 25th anniversary. *ABA Newsletter, 22*(1), 1.

Malott, M. E. (1999b). Financial development of behavior analysis. *ABA Newsletter, 22*(3), 2–3.

Malott, M. E., Davison, M., & Sato, M. (1999). A history of international development at ABA. *ABA Newsletter, 22*(3), 4–6.

Michael, J. (1979). Flight from behavior analysis. *The Behavior Analyst, 3,* 1–22.

Michael, J. (1985). Behavior analysis: A radical perspective. In B. L. Hammonds (Ed.), *Master lecture series: Vol. 4. Psychology and learning* (pp. 99–121). Washington, DC: American Psychological Association.

Midgley, B. D., & Morris, E. K. (1992). Nature = nurture: A review of Oyama's *The Ontogeny of Information: Developmental Systems and Evolution. Journal of the Experimental Analysis of Behavior, 58,* 229–240.

Morris, E. K. (1985). Public information, dissemination, and behavior analysis. *The Behavior Analyst, 8,* 95–115.

Morris, E. K. (1992). The aim, progress, and evolution of behavior analysis. *The Behavior Analyst, 15,* 3–29.

Patterson, G. R. (1982). *Coercive family processes.* Eugene, OR: Castalia.

Peterson, M. E. (1978). The Midwestern Association on Behavior Analysis: Past, present, future. *The Behavior Analyst, 1,* 3–15.

Peterson, M. E. (1979). A reply to Dinsmoor. *The Behavior Analyst, 2,* 25.

Pierce, W. D., & Epling, W. F. (1980). What happened to analysis in applied behavior analysis? *The Behavior Analyst, 3,* 1–10.

Resnick, L. B., Levine, J. M., & Teasley, S. D. (Eds.). (1991). *Perspectives on socially shared cognition.* Washington, DC: American Psychological Association.

Samelson, F. (1992). The APA between the World Wars: 1918 to 1941. In R. B. Evans, V. S. Sexton, & T. C. Cadwallader (Eds.), *The American Psychological Association: A historical perspective* (pp. 119–147). Washington, DC: American Psychological Association.

Shook, J. (1993). The professional credential in behavior analysis. *The Behavior Analyst, 16,* 87–101.

Shook, G. L., & Hemingway, M. (1999). Behavior Analyst Certification Board. *ABA Newsletter, 22*(2), 3.

Skinner, B. F. (1938). *The behavior of organisms.* Englewood Cliffs, NJ: Prentice Hall.

Skinner, B. F. (1945). The operational analysis of psychological terms. *Psychological Review, 52,* 270–277.

Skinner, B. F. (1948). *Walden two.* New York: Macmillan.

Skinner, B. F. (1953). *Science and human behavior.* New York: Macmillan

Skinner, B. F. (1957). *Verbal behavior.* Englewood Cliffs, NJ: Prentice Hall.

Skinner, B. F. (1959). The flight from the laboratory. In B. F. Skinner (Ed.), *Cumulative record* (pp. 242–257). New York: Appleton-Century-Crofts.

Skinner, B. F. (1971). *Beyond freedom and dignity.* New York: Bantam/Vintage.

Skinner, B. F. (1981). Selection by consequences. *Science, 213,* 501–504.

Skinner, B. F. (1983). Can the experimental analysis of behavior rescue psychology? *The Behavior Analyst, 6,* 9–17.

Smith, R. G., & Iwata, B. A. (1997). Antecedent influences on behavior disorders. *Journal of Applied Behavior Analysis, 30,* 343–375.

Smith, T. L. (1986). Biology as allegory: A review of Elliott Sober's *The Nature of Selection. Journal of the Experimental Analysis of Behavior, 46,* 105–112.

Starin, S., Hemingway, M., & Hartsfield, F. (1993). Credentialing behavior analysts and the Florida Behavior Analysis Certification Program. *The Behavior Analyst, 16,* 153–166.

TBA News. (1993). The teaching of behavior analysis. *1*(1), 2.

Thomas, D. R. (1979). Certification of behavior analysts in Minnesota. *The Behavior Analyst, 2,* 1–13.

Todd, J. T., & Morris, E. K. (1983). Misconception and miseducation: Presentations of radical behaviorism in psychology textbooks. *The Behavior Analyst, 6,* 153–160.

Zettle, R. D., & Hayes, S. C. (1982). Rule-governed behavior: A potential theoretical framework for cognitive-behavioral therapy. In. P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 1, pp. 73–118). New York: Academic Press.